

54. A transformed plant comprising the nucleic acid according to claim 47 or the genetic construct according to claim 51.

55. A method of producing a plant with increased GLA comprising transforming a plant cell with a nucleic acid according to claim 47 or the genetic construct according to claim 51 and regenerating it.

REMARKS

Claims 1-46 have been canceled without prejudice. Claims 47-55 have been added.

Claim 47 is directed to an isolated nucleic acid molecule encoding a delata-6 desaturase.

Claims 48-50 are drawn to nucleic acid molecules encoding a delata-6 desaturase from a plant, a bacterium, and a fungus, respectively. Support for added claims 47-50 is found throughout the specification, e.g., at page 7, line 7 through page 8, line 16.

Claims 51-55, all of which ultimately depend from claim 1, are drawn to a genetic construct, a vector, a cell, a transformed plant, and a method of producing a plant with increased GLA, respectively. The subject matter of claims 51-55 is fully supported by the instant disclosure, e.g., at pages 14-23.

Applicant respectfully submits that the foregoing amendments do not introduce new matter. Attached hereto is a marked-up version of the changes made to the specification and claims by the instant amendment. The attached page is captioned **“Version with Markings to Show Changes Made.”**

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It is firmly believed that the subject application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please amend the paragraph beginning at page 1, line 2 as follows:

CROSS-REFERENCE TO RELATED APPLICATIONS

This is a continuation application of U.S. Serial No. 08/934,254 filed on September 19, 1997, which is a continuation-in-part of U.S. Serial No. 08/789,936 filed on January 28, 1997, now U.S. Patent No. 5,789,220, which is a continuation-in-part of U.S. Serial No. 08/307,382 filed on September 14, 1994, now U.S. Patent No. 5,552,306, which is a continuation of U.S. Serial No. 07/959,952 filed on October 13, 1992, abandoned, which is a continuation-in-part of U.S. Serial No. 817,919, filed on January 8, 1992, abandoned, which is a continuation-in-part application of U.S. Serial No. 774,475 filed on October 10, 1991, abandoned.

IN THE CLAIMS:

Please cancel claims 1-46 without prejudice.

Please add the following claims:

47. An isolated nucleic acid molecule encoding a delta-6 desaturase.

48. An isolated nucleic acid according to claim 47, wherein said isolated nucleic acid is a plant delta-6 desaturase.

49. An isolated nucleic acid according to claim 47, wherein said isolated nucleic acid is a bacterial delta-6 desaturase.

50. An isolated nucleic acid according to claim 47, wherein said isolated nucleic acid is a fungal delta-6 desaturase.

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51. A genetic construct comprising an isolated nucleic acid according to claim 47.

52. A vector comprising the genetic construct according to claim 51.

53. A cell comprising the vector according to claim 52.

54. A transformed plant comprising the nucleic acid according to claim 47 or the genetic construct according to claim 51.

55. A method of producing a plant with increased GLA comprising transforming a plant cell with a nucleic acid according to claim 47 or the genetic construct according to claim 51 and regenerating it.

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